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NOTES ON BAPTISIA, by Wm. M. Canby.—Under the generic names of *Crotalaria* or *Sophora*, Linnæus described four genuine species of *Baptisia*, viz: *B. perfoliata*, *B. alba*, *B. tinctoria* and *B. australis*. In 1788, Walter added two more, *B. lanceolata* and *B. villosa*, placing them doubtfully under *Sophora*. Michaux (1803) placed all under *Podalyria*, and gave the same number (six) if we exclude his *P. mollis* which is now well known as a *Thermopsis*. Pursh merely copied Michaux's account of the species. Nuttall in his "Genera" published in 1818 added *B. leucophæa*, properly placing all under *Baptisia*. He continued Michaux's species as *B. mollis*, as did also DeCandolle in 1825 and Torrey and Gray, doubtfully, in 1838–40. DeCandolle added no new species, Muhlenberg's *B. bracteata* being the same as *B. leucophæa*, Nuttall; but between his account of the species and that of Torrey and Gray, Nuttall had added his *B. microphylla* and *B. sphærocarpa* and Croom his *B. simplicifolia*, thus bringing the number up to ten. Torrey and Gray elaborated the genus well, clearing up some doubtful cases and adding two species of their own, *B. leucantha* and *B. Lecontii*, and one of Chapman's, *B. megacarpa*. The number was increased to fourteen by the *B. Serenæ* of Curtis, although this may yet prove to be a hybrid between *B. alba* and *B. tinctoria*; and as it is evident from a comparison of original specimens, that Mr. Watson is right in considering Ravenel's *B. stipulacea* as identical with *B. microphylla*, this number continued to represent the species, until, in the GAZETTE for August last, *B. sulphurea* was added by Dr. Engelmann and *B. calycosa* by myself, completing the list as given below.

The earliest arrangement of the species was by dividing them into the obvious groups of simple leaved and trifoliate leaved species. As the number of the latter increased the color of the flowers was brought into service to form sub-divisions. This did pretty well when the known species were fewer and the legumes of several had not been collected; but now that new species have increased and old ones have become better known it seems best to try if they cannot be more naturally grouped. The synopsis given below is the result of some study of the larger collections in this country supplemented

by the favors of esteemed correspondents. But as it is quite astonishing how rarely the legumes are found in our herbaria, an alternative arrangement based upon the color of the flowers is given for the last nine species. But this I do not regard with favor.

It is evidently natural and even necessary to retain the primary divisions of simple leaved and trifoliate leaved species, but to these I have added another for *B. microphylla*, Nutt., which is intermediate in character. In the TRIFOLIATÆ it is more convenient to form the principal divisions by bringing together species having bibracteolate pedicels as distinguished from those without them; and again to separate the latter into those species whose inflorescence is terminal and sometimes leafy, and those in which the racemes are pedicellate and opposite the leaves—a distinction which seems to me to be not only useful but of some importance; and the latter again by means of the legumes. This arrangement brings the allied species together better than any other that I could think of. If space permitted, the alliances of some of the species would present interesting features; but I will only add that specimens from the South and South-west will still be gratefully received and may serve to illustrate some doubtful forms.

BAPTISIA, Vent.

§ SIMPLICIFOLIÆ. Leaves all simple; no stipules (stipules and leaflets united).

1. *B. simplicifolia*, Croom. Leaves sessile or nearly so; flowers in racemes. Quincy, Florida.

2. *B. perfoliata*, R. Brown. Leaves perfoliate; flowers axillary. South Carolina and Georgia.

   var. *lobata*. Leaves variously sinuate or lobed or even almost trifoliate. South Carolina. (Ravenel.)

§§ STIPULATÆ. Leaves mostly trifoliate, but some of the upper leaflets and even the conspicuous stipules either suppressed or united together, thus appearing simple and sessile. Flowers in short loose terminal racemes.

3. *B. microphylla*, Nuttall. (*B. stipulacea*, Ravenel. I cannot but regret the necessity for the suppression of Ravenel's excellent name.) South Carolina and West Florida to Alabama.

   var. *axillaris*. Flowers axillary from the upper leaflets. Probably a hybrid. Aiken, South Carolina. (Ravenel.)

§§§ TRIFOLIATÆ. Leaves petioled, all trifoliate; flowers in racemes.

* Pedicels slender, bibracteolate above the middle; stipules, bracts and bracteoles persistent.

4. *B. Lecontii*, Torr. and Gray. Pubescent; calyx lobes short triangular. Georgia and Florida.

5. *B. calycosa*, Canby. Glabrous (except the somewhat ciliate foliage, &c.), calyx lobes foliaceous, almost as long as the corolla, persistent and enlarging in fruit. Legumes compressed, ovate, acuminate, about the length of, or shorter than the calyx. East Florida. (Miss Reynolds, Miss Floyd.) A very remarkable species.

** Pedicels not bibracteolate.

+– Racemes very many, short and loose, terminal, often leafy at base, *i. e.*, some of the lower flowers axillary.

6. *B. tinctoria*, R. Brown. Very smooth with small (½ in. to 1½ in. long) wedge obovate leaflets and small bright yellow flowers. Canada to Florida and west to the Mississippi.

7. *B. lanceolata*, Elliott. Stout, pubescent when young, leaflets oblanceolate (2 to 3 in. long); flowers large, dull yellow. North Carolina to Florida and westward.

var. *uniflora*, Torr. and Gray. (*B. uniflora*, Spreng.) Leaflets more cuneate obovate, firmer in texture, often retuse; flowers nearly all axillary. Arkansas.

+–+– Racemes fewer, opposite the leaves, the flowers therefore never axillary.

++ Legume spherical, its walls very thick and bony.

8. *B. sphærocarpa*, Nuttall. Arkansas and Texas.

++++ Legumes oblong, the walls thin but firm.

= Legumes flattened contrary to the septa.

9. *B. alba*, R. Brown. Legumes six to eight times longer than broad; flowers white. North Carolina to Florida and westward.

10. *B. Serenæ*, M. A. Curtis. Legumes one half shorter; flowers bright yellow. Sand hills, South Carolina.

=== Legumes much inflated, blunt, nearly cylindrical.

11. *B. megacarpa*, Chapm. Racemes short, somewhat numerous, sometimes appearing as if terminal; flowers bright yellow; leaflets of the long petioled leaves elliptical. Florida and Georgia.

12. *B. leucantha*, Torr. and Gray. Racemes few, very long; flowers nearly white; leaves short petioled with oblanceolate leaflets; stipules deciduous; style short, about as long as the linear acute ovary. Upper Canada to Michigan and thence to South Carolina and Florida and westward.

13. *B. sulphurea*, Engelm. Nearly as in the last but with shorter racemes, persistent stipules and yellow flowers which have an obtuse ovary with longer style. Arkansas.

==== Legumes boat shaped, abruptly and sharply acuminate.

14. *B. villosa*, Nuttall. Racemes somewhat declining or erect; flowers yellow, short pedicelled; legumes little inflated, obtuse at base. Virginia, North Carolina and Arkansas.

15. *B. leucophæa*, Nuttall. Racemes strongly declined; flowers cream-colored, on long pedicels subtended by large persistent bracts; legumes much inflated, strongly acuminate at each end. Michigan, south to Texas and east to South Carolina.

var. *lævicaulis*, Gray. Smaller in all its parts and nearly smooth. Texas.

16. *B. australis*, R. Brown. Smooth; racemes many or several, erect; flowers blue or sometimes chocolate-colored with the vexillum sometimes auriculate; legumes erect, long and little inflated. Pennsylvania and Ohio to Georgia and Arkansas.

var. *minor*, Torr. and Gray. "Flowers smaller and fewer; vexillum not auriculate." Arkansas.

For the last nine species this arrangement may be preferred by some:

= Flowers yellow.
8. *B. Serenæ*, M. A. Curtis.
9. *B. megacarpa*, Chapm.
10. *B. sphærocarpa*, Nutt.
11. *B. sulphurea*, Engelm.
12. *B. villosa*, Nutt.

== Flowers white or cream-color.
13. *B. leucophæa*, Nutt.
var. *lævicaulis*, Gray
14. B. *leucantha*, Torr. and Gray.
15. *B. alba*, R. Brown.

=== Flowers blue.
16. *B. australis*, R. Brown.
var. *minor*, Torr. and Gray.

A VISIT TO THE SHELL ISLANDS OF FLORIDA, by A. H. Curtiss.—Paper II.—Taking up the thread of our narrative where lately it was dropped, we find ourselves at the entrance of the channel which, through "wide-spread, reedy fens," leads to the Island of Pines. The tide is beginning to run out, and warns us to hasten or remain stranded somewhere in the morass till midnight. Rowing is impossible, but by pushing and paddling, we manage to get along very well through the broader reaches of the watery alley. All goes well for a while, but presently the creek forks and we know not which way to turn. The left-hand course appears more navigable, and soon we are toiling through a ditch which becomes narrower as we progress. It winds to the right and then to the left, and folds upon itself like a writhing

serpent, wandering, as it were, without aim or purpose, like one bewildered. Standing up in the boat and looking over the grassy plain, we report to those sitting: "We are approaching the island." "It is on our left." "It is behind us." A quarter of an hour passes, and the report is: "We are evidently receding from the island and must have taken the wrong course." A brief consultation follows and we decide to go on. Already we have pushed the boat over shallows with difficulty, and the tide is falling rapidly. The channel becomes narrower and several times the boat is turned with great difficulty by pushing bow and stern from opposite directions. At one point we are only an oar's length from where we were ten minutes before. Gradually we near the shore and at last only one elbow remains to be turned. But it is impossible to get the boat around this until the tide rises, and so leaving it tied to the rushes we make our way ashore as best we can. The steep white bank is surmounted by Bayonets and Cactuses which present a forbidding front, and rising from among these a few dead and weather beaten Cedars stretch forward their gaunt, white branches as if to forbid our approach. However we make the landing in safety, climb the ascent and after passing these grim sentinels, suddenly enter a verdant shady avenue. Live Oaks, Palmettos and Cedars border the way and cast a refreshing shade. Their branches are garlanded with vines and fringed with the Spanish moss. The thread-like *Vincetoxicum* dangles from the dagger-shaped leaves of a towering *Yucca*, and gathering themselves into a coil unwind again in the top of a spiny *Sageretia* or a drooping *Sapindus*. Huge plaited Palmetto leaves rustle as we pass. The *Cocculus Carolinus* and *Passiflora suberosa* grow in endless profusion, forming banks of richest verdure and carpeting with their Ivy-like leaves the pavement of white shells. Of shrubs the most noticeable is the *Chiococca racemosa* and *Psychotria rufescens*. Both are allied to *Coffæa* and the former bears a considerable resemblance to it. The branches are slender and flexuous, the leaves lanceolate and shining; the small bell-shaped flowers are borne in drooping axillary racemes and are succeeded by berries of snowy whiteness whence the generic name, which means Snow-berry. The berries of the Coffee shrub are red. The *Psychotria* is a little shrub not more than a foot in height with cymes of scarlet berries among clusters of shining green leaves. The *Chiococca, Vincetoxicum*, and several other plants found on these islands were, previous to our visit, ascribed to South Florida. Growing in the deepest shades we find a delicate little plant of unique aspect, somewhat resembling in texture and shape of leaves the

Sedum ternatum, but yet not traceable to any known genus of United States plants. Not until its filiform spikes of minute flowers are found, can we even guess at its identity. Then we exclaim exultantly, *Peperomia!* Upon tasting it the warm, aromatic flavor of the favorite condiment is at once perceived. It is a congener of the Black Pepper, a most interesting addition to our flora and will be a companion for the hitherto isolated *Saururus*. As we reach the border-land of shadow and sunshine we meet a number of plants of quite a different character, plants which beside the stately and elegant species just visited, might be called plebeian, or in common parlance, weedy. Here is the Black Nightshade comparing notes with its cousins, *Capsicum* and *Physalis*. Here too are some gigantic *Phytolaccas*, likewise with a company of relatives, *Rivina*, *Boerhaavia* and *Petiveria*. The Poke-weed calls for no description. No verse was ever dedicated to it, though many verses have been written with its juice. Looking at it from a poetical point of view, we would call it a plant of a peculiarly modest and retiring disposition, blushing to its very roots at the thought of its bare, awkward shape, and drooping its flowers as though it would be where the *Arbutus* traileth. Dealing with it practically, we apply axe and grubbing hoe to every plant we find, for here in Florida it becomes a small tree and an unsightly object. The *Rivina* is a straggling, half-shrubby plant, with cinereous foliage and racemes of small, delicate, pink flowers and scarlet berries. The *Petiveria* much resembles *Polygonum Virginianum* in general appearance and has the odor of Garlic. We have now reached a large clearing, which, since denuded of trees, has become a natural garden, filled with a great variety of luxuriant and beautiful plants. The most conspicuous of these is the *Verbesina sinuata*, a large and showy Composite which contrasts well with the more delicate herbage. Morning-glories of various colors grow here in astonishing profusion, and when seen in the early morning their beauty is indescribable. There are three species, *Ipomœa commutata* with delicate leaves and purplish flowers, *I. Michauxii* with coarse foliage and white flowers and *I. hederæfolia* with flowers of azure blue. There are large beds of *Mentzelia*, brilliant with golden flowers, spreading mats of *Commelyna communis* with delicate blue flowers, and here and there covering a shelly mound we find the delicate *Melothria pendula* or "Rabbit Cucumber" with curious green fruit hanging from hair-like peduncles. Every stump is hidden under vines of *Cocculus*, *Bignonia*, *Gonolobus* and *Smilax*. Lending grace to the scene are a variety of beautiful grasses, the gracefully drooping

Uniola nitida, the stately *Setaria Composita*, and, carpeting the ground, the delicate *Panicum hirtellum*. To a naturalist no garden could be more beautiful. Art could only improve it by opening paths among its tangled mazes. Having crossed the clearing we find ourselves suddenly in a very dark and humid forest. Here there is scarcely any herbage except ferns and even these grow sparingly. Innumerable vines of the Grape and *Gonolobus*, of the prickly *Smilax*, and serpentine *Berchemia*, seek the tree tops and obstruct the way. In an opening there is a fine growth of a Vetch, similar to *V. tetrasperma*, which Mr. Watson has named *V. Floridana*. With this exception nothing of interest rewards our search. It is a dismal region and we are glad to hasten back to the sunshine and to the boat which is now well afloat. The island may have untold treasures in reserve, but the price demanded is too great. Physical suffering outweighs intellectual enjoyment and we decide that the limit of endurance has been reached. For twelve hours or more we have fought an invisible foe, and at last we succumb to a minute winged particle of matter called the sand-fly. The coast of Florida would be a naturalist's paradise but for the sandflies, deerflies and mosquitoes (large and small) which infest it. But if only one of these pests might be removed let that be the sand-fly. Its strength consists chiefly in its littleness, as it penetrates any but the most closely woven fabric. It crawls through the hair and beard and into the eyes, nose and ears, biting where it goes until its victim is almost maddened and compelled to build a fire and take refuge in its smoke. Such a scourge might have driven our first parents from paradise. Evidently persons have attempted to make this island their home but have been obliged to abandon it. Gladly we step into our boat again and push from the shore, and, after again turning a hundred right angles, it is with a sense of relief that we shoot out into the free rolling waters of the St. John's. Sailing past that portion of the island which is covered with Pines we next seek the entrance to Stratton Island, the second in size of the group. It is with comparative ease, yet with "many a winding bout," that we effect an entrance through the marshes which environ it. Climbing its steep, shelly banks, we follow a path well trodden by fishermen, leading along a narrow ridge with steep sides, which becomes rugged and precipitous as we advance. The shells slip under our feet, low-branching, gnarled, and lichen-clad trees render progress difficult, and after advancing nearly half a mile, we turn back, but not until we have discovered two fine growths of the *Cheilanthes microphylla*, a fern not before found in the United States except on

the borders of Mexico, where it is said to have been collected many years ago. It is similar to *C. vestita* but smoother and more delicate, intermediate between that and *C. Alabamensis*. Here we also find the *Eugenia monticola*, a low shrub with handsome coriaceous leaves having the strong aromatic flavor of Allspice, which is the fruit of the *Eugenia pimenta*. Another new find is a stout, entire leaved form of *Ipomœa hederæfolia*, which Prof. Gray has called var. *integriuscula*. We also find growing in abundance on this ridge, the *Psychotria, Sageretia* and *Forestiera* before mentioned. The last two flower in the fall and fruit in the spring. Here likewise are the *Frangula, Clematis Catesbyana, Urtica chamædryoides, Parietaria debilis, Stellaria prostrata*, etc. The variety of surface and vegetation is truly wonderful. Stepping down from the ridge we are all at once surrounded by a strictly littoral vegetation, such as *Baccharis, Borrichia, Statice* and *Sesuvium*. Following the base of the ridge we come to a small swamp filled with sedges and Solidagos. Upon turning to the right we enter the very ideal of a tropical forest, one of natures cathedrals, grand and awe-inspiring, full of objects strange and beautiful from the "lordly king of Palms to the lichen which staineth its stem." Huge trunks and leaves and countless vines festooned from tree to tree circumscribe the vision, while over our heads the gigantic leaves of the Tree Palmetto form a majestic canopy. On the ponderous branches of Live Oaks are luxuriant growths of ferns, and streaming down from branch and branchlet, the Grey Moss hangs motionless, adding solemnity to the scene. What is there in nature so exquisitely beautiful as the long Grey Moss of these southern forests? In its ever undulating lines of growth are embodied the "lines of beauty and of grace." Whether hanging motionless from lofty branches like stalactites in a cave, or writhing in the wind like the Gorgons' tresses, it has a beauty peculiarly its own, magical and weird. It seems out of place among its surroundings and better fitted for the land of the fairies where plants might be expected to have, like this, grey foliage and green flowers, and to grow downward and feed on thin air.

As we have advanced into the gloomy depths of the forest, the sun has sunk low, and as it disappears below the horizon, the shades of night gather in the dark recesses and seem to people them with unseen presences. Unperceived vines grapple us as we hurry along; everything we touch seems to awaken the echoes. The great leaves of the Palmetto that hang like curtains in our way, rustle as we press them aside, while the dead and fallen ones crackle loudly beneath our tread. Thoughts arise of bloody traditions connected with this

region, of massacres by the Spanish, French and Indians who for centuries disputed the soil; of a whole garrison left hanging on the trees, if not on this, on some neighboring shore. Excavations are found at frequent intervals of every shape and size, said to have been dug by people who were searching for hidden treasures. Emerging from the forest we soon reach a blazing camp fire, and after partaking of the supper prepared for us, we spread our rubber blankets on a mattrass of cedar boughs, unroll bedding and erect a mosquito canopy.

A threatening thunder cloud has passed away, and the stars are shining brightly. A soothing sound of whispering breezes and lapping waters mingles with the ocean's deep diapason. The air is cool and refreshing. We hope for a good night's rest and in the morning to start for the sea-beach.—(To be concluded.)

NEW SPECIES OF FUNGI, by Chas. H. PECK.—Specimens of the species of fungi here described have been received from the various sources indicated.

AGARICUS CHLORINOSMUS.*—Pileus convex or expanded, warty on the disk, covered on the even margin with a light powdery at length evanescent substance, white; lamellæ white; stem nearly cylindrical, stout, deeply penetrating the earth; spores broadly elliptical, .0003–.0004 of an inch long; odor distinct, chlorine-like.

Plant six to seven inches high, pileus four to six inches broad, stem one to two inches thick.

Burnt ground in woods. Closter, N. J. August. *C. F. Austin.*

I have seen only a single dried specimen but the characters are so striking and peculiar that there can be no difficulty in identifying the species. The large size, the peculiar odor and the powdery substance on the margin of the pileus, which according to Mr. Austin's notes is nearly half an inch thick, are characters not easily overlooked. Because of the warty disk I should refer the species to the subgenus *Amanita*, yet no volva was detected. No trace of an annulus is visible in the dried specimen and the stem having been cut from the pileus it is not clear whether the lamellæ were free or not.

AGARICUS MORGANI.—Pileus fleshy, soft, at first subglobose, then expanded or even depressed, white, the brownish or alutaceous cuticle breaking up into scales except on the disk; lamellæ close, lanceolate, remote, white, then green; stem firm, equal or tapering up-

*Since reading proof, the Torrey Bulletin for December has come to hand containing a description of this species furnished by Mr. Austin, without the author's knowledge.

wards, subbulbous. smooth, webby-stuffed, whitish, tinged with brown; annulus rather large, movable; flesh both of the pileus and stem white, changing to reddish and then to yellowish when cut or bruised; spores ovate or subelliptical, mostly uninucleate, .0004–.0005 of an inch long, .0003–.00032 broad, sordid green.

Plant six to eight inches high, pileus five to nine inches broad, stem six to twelve lines thick.

Open dry grassy places. Dayton, Ohio. *A. P. Morgan.*

This species is remarkable because of the peculiar color of the spores. No green-spored Agaric, so far as I am aware, has before been discovered, and no one of the five series in which the very numerous species of the genus have been arranged, is characterized in such a way as to receive this species. The subgenus *Lepiota*, to which our plant clearly belongs in every respect except in the color of its spores, pertains to the LEUCOSPORI or white-spored series. This series is characterized as having "spores white, rarely whitish," the whitish, (albidæ) as explained by Fries, including such spores as have the color sordid or inclining to reddish, (sordidæ l. in rubellum vergentes). Nothing is said about green spores. Shall we then institute a green-spored series (VIRIDISPORI) for the reception of this new Agaric? It is not yet shown that such a series exists in Nature, although this plant may be an indication of it, and it seems a little hasty to found a *series* on the strength of a single species. Until other species of such a supposed series shall be discovered it seems best to regard this as an aberrant member of the white-spored series. The same course has been taken with those Agarics that have sordid or yellowish or lilac-tinted spores. In this view of the case our plant is readily referred to the first section (*Proceri*) of the subgenus *Lepiota*, and should, in my opinion, stand next to *Agaricus molybdites* in which the lamellæ are said to become blue.

It gives me great pleasure to dedicate this fine species to its discoverer, Mr. Morgan, who has kindly submitted to me a description and figure of the fresh plant, from which description and figure the preceding diagnosis was chiefly derived. In the dried specimens the lamellæ have assumed a dull brownish-green hue.

MERULIUS SULCATUS.—Thin, fleshy or subcoriaceous, effuso-reflexed; pilei narrow, imbricated and subconfluent, concentrically sulcate, villose, wavy, whitish varied with yellowish and brownish tints, the extreme margin white when young; hymenium pallid, tinged with brownish or pinkish hues, concentrically sulcate, gyrose-reticulate with crowded folds.

Dead bass wood. Sheboygan, Wisconsin. *J. J. Brown.*

LYCOPERDON FROSTII.—Peridium subglobose, one to two inches broad, generally narrowed below into a short stem-like base, echinate or shaggy with long stout whitish spines which are generally curved or stellately united and which at length fall off and leave the peridium brown and smooth; capillitium and spores purplish-brown; spores globose, rough, .00016–.0002 of an inch in diameter, intermingled with numerous short slender fragmentary filaments.

Ground in meadows. Brattleborough, Vermont. August and September. *C. C. Frost.*

This species is related to *L. constellatum*, but the spines are longer and of a paler color and the denuded peridium is smooth, not reticulated as in that species. It is respectfully dedicated to its discoverer.

HYPOMYCES BANNINGII.—Subiculum white, then sordid; perithecia crowded, ovate, with a papilliform ostiolum, pale amber or honey color; asci slender, cylindrical; spores uniseriate, oblong fusiform, white in the mass, .0012–.0015 of an inch long, .00016–.0002 broad.

Decaying fungi, apparently some *Lactarius*. Baltimore, Md. *Miss M. E. Banning.*

The spores in the specimens are simple, but they may possibly become uniseptate when old.

SOME FLORIDA FERNS.—In the Torrey Botanical Bulletin for September, 1877, I reported *Acrostichum aureum*, L., as growing twenty miles south of St. Augustine; and *Polypodium Plumula*, H. B. K., fourteen miles from St. Augustine, and also at Daytona on the Halifax River. Here I also found *Adiantum Capillus-Veneris*, L.

About St. Augustine I collect *Blechnum serrulatum*, Michx., *Polypodium aureum*, L., *P. incanum*, Swz., *Vittaria lineata*, Swartz, *Pteris aquilina*, var. *caudata*, *Woodwardia angustifolia*, Smith (which fruits freely here), *W. Virginica*, Willd., *Asplenium ebeneum*, Aiton, *Aspidium patens*, Swartz, *A. Floridanum*, Chapm., *Onoclea sensibilis*, L., *Osmunda regalis*, L. and *O. cinnamomea*, L. These ferns fruit finely here, the latter sometimes two or three times a year.—MARY C. REYNOLDS, *St. Augustine, Fla.*

N. A. FERNS.—Mr. Geo. E. Davenport has now in the hands of the printer his Catalogue of North American Ferns. It is a work that every fern lover in the United States should have, and we hope that the readers of the GAZETTE will encourge Mr. Davenport in this undertaking and promptly send on their names as subscribers. Copious

notes have been added, giving the geographical range, and an extra sheet has been prepared for use as a check list. It will be a pamphlet of 50 pages or more and will really be more of a hand-book than a mere catalogue. Mr. Davenport's address is Medford, Mass.

JOURNAL OF BOTANY, British and Foreign.—The first article is a notice with figures, by S. LeM. Moore, of the Royal Herbarium Kew, of a monstrous monandrous *Cypripedium*. It leads to a discussion of other deviations from the usual structure of *Cypripedium*, one of which was observed by Dr. Asa Gray. The inference is that the diandrous is an earlier type than the monandrous,—"that some type probably extinct at the present time, containing stamens of the two whorls and *Cypripedium* pollen was the starting point of the order" A note by Dr. Marten on the structure of Composites, in further confirmation of the theory, that the pappus is not a true calyx but a series of *trichomes* rather than definite *phyllomes*. Description of new plants from China and from Persia. In the proceedings of the Linnean Society of London, Nov. 7, 1878, Dr. Maxwell Marten read an extract from a letter of Dr. Beccari, describing a gigantic Aroid, found by him in Sumatra. The species which he calls *Conophallus Titanum* has a tuber five (5) feet round, from which is pushed up a single leaf, with a long stout petiole, the divided blade covering an area of forty-five (45) square feet.—A. P. M.

FRASERA CAROLINENSIS, Walt.—Drs. Gray and Chapman in their Floras disagree as to the duration of the life of this plant. Both, however, are wrong. The plant is not a biennial or triennial as Prof. Gray describes it, nor a perennial as said by Chapman in his Southern Flora, but is probably of uncertain duration, varying from 8 to 10 years and upwards. Three roots dug from the woods in Madison Co., Ill., in 1869, must have been several years old at the time. One fruited in 1875, one in 1876 and the last this year, 1878. The roots form each year a rosette of root leaves. When the fruiting stalk starts up in May it grows rapidly, and after the fruit is mature in July and August the root perishes.—E. HALL.

DR. MORGAN'S article on the Phyllotaxy of Leaves will be concluded in the April number.